

Amendments to the Claims:

Please add new Claims 71-73 as shown in the Listing of Claims.

Please amend the claims as shown in the Listing of Claims. This Listing of Claims will replace prior versions, and listings, of claims in the application.

Listing of Claims:

1-53 (canceled)

54. (currently amended) An image processing apparatus comprising:
inputting means for inputting area-assignment information that defines latent-image area and background area and binary additional information composed of bit values (0 or 1);

determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area-assignment information;

generating means for generating patterned image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent-image area, the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied; and

information-attaching means for attaching the binary additional information to at least the latent image area by moving at least the arranged second dots such that it can be determined whether an image on a printed material is an original because the binary additional information can be extracted from the original image based on the positions of the ~~arranged-moved~~ second dots and predetermined positions in the latent-image area, and the binary additional information cannot be extracted from a copy, the information-attaching means moving each second dot from the predetermined position along a direction which

is defined by a bit value at a corresponding bit position in the binary additional information composed of bit values (0 or 1).

55. (currently amended) An image processing apparatus according to claim 54, wherein the binary additional information can be extracted based on the difference between the positions of the ~~arranged-moved~~ second dots and predetermined positions in the vertical axis and the difference between the positions of the ~~arranged-moved~~ second dots and the predetermined positions in the horizontal axis.

56. (currently amended) An image processing apparatus according to claim 55, wherein the binary additional information can be extracted based on whether the result of multiplication of the difference between the positions of the ~~arranged-moved~~ second dots and predetermined positions in the vertical axis and the difference between the positions of the arranged second dots and the predetermined positions in the horizontal axis is negative or positive.

57-62. (canceled)

63. (currently amended) An image processing method comprising:
inputting area-assignment information that defines latent-image area and background area and binary additional information composed of bit values (0 and 1);

determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area-assignment information;

generating patterned image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent-image area, the first dots being easily

reproducible when copied and the second dots not being easily reproducible when copied;

attaching the binary additional information to at least the latent image area by moving at least the arranged second dots such that it can be determined whether an image on a printed material is an original because the binary additional information can be extracted from the original image based on the positions of the ~~arranged-moved~~ second dots and predetermined positions in the latent-image area, and the binary additional information cannot be extracted from a copy, each second dot being moved from the predetermined position along a direction which is defined by a bit value at a corresponding bit position in the binary additional information composed of bit values (0 or 1).

64. (currently amended) An image processing method according to claim 63, wherein the binary additional information can be extracted based on the difference between the positions of the ~~arranged-moved~~ second dots and predetermined positions in the vertical axis and the difference between the positions of the ~~arranged-moved second~~ dots and the predetermined positions in the horizontal axis.

65. (currently amended) An image processing method according to claim 64, wherein the binary additional information can be extracted based on whether the result of multiplication of the difference between the positions of the ~~arranged-moved~~ second dots and predetermined positions in the vertical axis and the difference between the positions of the ~~arranged-moved~~ second dots and the predetermined positions in the horizontal axis is negative or positive.

66. (previously presented) A computer-readable storage medium having computer-executable instructions stored thereon for performing an image processing method according to claim 63.

67. (previously presented) An image processing apparatus according to claim 54, wherein the length between each of positions of the arranged second dots and each of the predetermined positions is less than half of the length between two of the predetermined positions.

68. (previously presented) An image processing apparatus according to claim 67, wherein the positions of the arranged second dots correspond to the predetermined positions on a one-to-one basis.

69. (previously presented) An image processing method according to claim 63, wherein the length between each of positions of the arranged second dots and each of the predetermined positions is less than half of the length between two of the predetermined positions.

70. (previously presented) An image processing method according to claim 69, wherein the positions of the arranged second dots correspond to the predetermined positions on a one-to-one basis.

71. (new) An image processing apparatus, comprising:
an inputting unit capable of inputting patterned image data, which includes first dots of a first dot size at determined positions in a background area and second dots of a second dot size that is a smaller dot size than the first dot size at determined positions in a latent-image area, the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied, each of the second dots in the patterned image data being moved from the determined position along a direction which is determined by a bit value at a corresponding bit position in binary additional information;
an extracting unit configured to extract the binary additional information from the binary additional information of the input image data;
an outputting unit configured to output the extracted binary additional information as digital data; and

a determining unit configured to determine whether the input image is original or not according to the output digital data.

72. (new) An image processing apparatus according to 71, wherein the outputting unit outputs NULL in the case that the extracting unit could not extract the binary additional information.

73. (new) An image processing method, comprising:
inputting patterned image data, which includes first dots of a first dot size at determined positions in a background area and second dots of a second dot size that is a smaller dot size than the first dot size at determined positions in a latent-image area, the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied, each of the second dots in the patterned image data being moved from the determined position along a direction which is determined by a bit value at a corresponding bit position in binary additional information;
extracting the binary additional information from the binary additional information of the input image data;
outputting the extracted binary additional information as digital data; and
determining whether the input image is original or not according to the output digital data.

74. (new) An image processing method according to Claim 73, wherein NULL is output in a case in which the binary additional information could not be extracted.